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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/672,607	Applicant(s) RAJKOTIA ET AL.	
	Examiner Olivia Marsh	Art Unit 2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Objections*****art**

1. **Claims 5-6 and 12-13** objected to because of the following informalities:

As to claims 5-6, claim 5 states the limitation that "the traffic channel registration controller is capable of receiving in a reverse traffic channel a registration request message from said at least one mobile station." Applicant further claims in claim 6 "the mobile switching center is capable of sending a registration request message to said traffic channel registration controller for forwarding to said at least one mobile station in a traffic channel." Since claim 6 depends from claim 5, these limitations conflict as both the mobile station and the MSC cannot send registration request messages during a single registration process. The Examiner has determined the applicant meant to claim, in parent claim 5, as claimed in parent claims 1 and 4, the traffic channel registration controller is capable of receiving in a reverse traffic channel a *registration message* from said at least one mobile station and will use this interpretation in order to apply prior art.

As to claims 12-13, claim 12 states the limitation that "the traffic channel registration controller is capable of receiving in a reverse traffic channel a registration request message from said at least one mobile station." Applicant further claims in claim 13 "the mobile switching center is capable of sending a registration request message to said traffic channel registration controller for forwarding to said at least one mobile station in a traffic channel." Since claim 6 depends from claim 5, these limitations conflict as both the mobile station and the MSC cannot send registration request messages during a single registration process. The Examiner has determined the applicant meant to claim, in parent claim 12, as claimed in parent claims 8 and

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11, the traffic channel registration controller is capable of receiving in a reverse traffic channel a *registration message* from said at least one mobile station and will use this interpretation in order to apply prior art.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 8, 15, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Sayeedi (U.S. 2003/0129980 A1) in view of Canoy (U.S. 2004/0248603 A1).**

As to claim 1, Sayeedi discloses a wireless communications system 100, reading on claimed "wireless communication system," comprising a mobile switching center 132, base stations 106, 138, reading on claimed "at least two base stations," and a mobile station 102 (Figure 1, para. 19-20), reading on claimed "one mobile station." Sayeedi also discloses an apparatus includes a base station that receives a registration request from the network that requests that the mobile station be instructed to register, transmits a registration order to the mobile station that instructs the mobile station to register with the network, receives a registration message from the mobile station, conveys a location update request to the network that requests an update of a location of the mobile station, and receives, from the network, a location update confirmation message that confirms an updating of the location of the mobile station (para. 15), reading on claimed "apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station that is capable of receiving at least

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one mobile station registration message from at least one mobile station; and at least one mobile station that is capable of sending at least one mobile station registration message to least one base station.”

Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19). Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27). However, Sayeedi fails to disclose the registration messages sent from the mobile station to the base station occur in a traffic channel. The Examiner maintains this feature was old and well known in the art at the time of invention as taught by Canoy.

In the same field of endeavor, Canoy teaches an apparatus for communication of broadcast data from a transmitter to a plurality of terminals in a communication system is provided (para. 10). Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "providing mobile station registration in a traffic channel.”

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information

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within the registration message when the update of the mobile device's location is immediately needed.

As to claim 8, Sayeedi discloses a wireless communications system 100, reading on claimed "wireless communication system," comprising a mobile switching center 132, base stations 106, 138, reading on claimed "a mobile switching center and a plurality of base stations capable of communication with a plurality of mobile stations," and a mobile station 102 (Figure 1, para. 19-20). Sayeedi also discloses an apparatus includes a base station, reading on claimed "apparatus," that receives a registration request from the network that requests that the mobile station be instructed to register, transmits a registration order to the mobile station that instructs the mobile station to register with the network, receives a registration message from the mobile station, conveys a location update request to the network that requests an update of a location of the mobile station, and receives, from the network, a location update confirmation message that confirms an updating of the location of the mobile station (para. 15), reading on claimed "apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station of said plurality of base stations that is capable of receiving at least one mobile station registration message from at least one mobile station of said plurality of mobile stations; and at least one mobile station of said plurality of mobile stations that is capable of sending at least one mobile station registration message to least one base station of said plurality of base stations."

Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19). Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27). However, Sayeedi fails to disclose the

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registration messages sent from the mobile station to the base station occur in a traffic channel. The Examiner maintains this feature was old and well known in the art at the time of invention as taught by Canoy.

In the same field of endeavor, Canoy teaches an apparatus for communication of broadcast data from a transmitter to a plurality of terminals in a communication system is provided (para. 10). Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "providing mobile station registration in a traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

As to **claim 15**, Sayeedi discloses a wireless communications system 100, reading on claimed "wireless communication system," comprising a mobile switching center 132, base stations 106, 138, reading on claimed "at least two base stations," and a mobile station 102 (Figure 1, para. 19-20), reading on claimed "one mobile station." Sayeedi also discloses a method for initiating an ordered registration of a mobile station with a network (para. 14), reading on claimed "method for registering at least one mobile station in said wireless system," and an apparatus that includes a base station that receives a registration request from the

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network that requests that the mobile station be instructed to register, transmits a registration order to the mobile station that instructs the mobile station to register with the network, receives a registration message from the mobile station, conveys a location update request to the network that requests an update of a location of the mobile station, and receives, from the network, a location update confirmation message that confirms an updating of the location of the mobile station (para. 15), reading on claimed "sending from said at least one mobile station at least one mobile station registration message to at least one base station; receiving in said at least one base station said at least one mobile station registration message sent from said at least one mobile station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132 (para. 30), reading on claimed "registering said at least one mobile station in said mobile switching center of said wireless communication system."

Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19). Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27). However, Sayeedi fails to disclose the registration messages sent from the mobile station to the base station occur in a traffic channel. The Examiner maintains this feature was old and well known in the art at the time of invention as taught by Canoy.

In the same field of endeavor, Canoy teaches an apparatus for communication of broadcast data from a transmitter to a plurality of terminals in a communication system is provided (para. 10). Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a

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broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "providing mobile station registration in a traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

As to claim 20, Sayeedi and Canoy teach everything as applied in claim 15 and Sayeedi also discloses each BS of the multiple BS's 106, 138 includes multiple base transceiver stations (BTS's) 108, 110 (two shown) and a timer 113 that are each operably coupled to a base station controller (BSC) 112 (para. 19), reading on claimed "traffic channel registration controller," and upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "sending from said at least one mobile station at least one mobile station registration message to a traffic channel registration controller in at least one base station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132 (para. 30), reading on claimed "receiving in said traffic channel registration controller in said at least one base station said at least one mobile station registration message sent from said at least one mobile station and using said traffic channel registration controller to

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cause said mobile switching center to register said at least one mobile station in said wireless communication system.”

4. Claims 2, 4-5, 9, 11-12, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayeedi and Canoy as applied to claims 1, 8, and 15 above, and further in view of LaDue (U.S. 2005/0147057 A1).

As to claims 2 and 9, Sayeedi and Canoy teach everything as applied in claim 1 and 8 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed “said at least one base station is capable of receiving a registration message from said at least one mobile station.” Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, and the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed “said at least one base station is capable of causing said mobile switching center to register said at least one mobile station in said wireless communication system.” Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed

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"said at least one base station is capable of sending a registration accepted order to said at least one mobile station."

Sayeedi discloses everything as stated above; however, he fails to disclose the base station is capable of receiving a registration message *in a reverse traffic channel*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Canoy.

Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "at least one base station is capable of receiving in a reverse traffic channel a registration message."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

Sayeedi and Canoy teach everything as stated above; however, neither teaches the registration accepted order is sent *via a forward traffic channel* to the mobile station. The Examiner contends this feature was old and well known in the art at the time of invention as taught by LaDue.

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In the same field of endeavor, LaDue teaches an invention that produces high-speed digital data communication methods through narrowband and wideband digital traffic channel mediums (para. 34). LaDue also teaches [para. 208]:

If a VTT terminal 120 has not previously registered as a roamer, it sends a registration increment to the HLR associated with the MSISDN via the SS#7 or SS7 network 113. In this particular case the associated HLR 109 is collocated within physical constructs of the selected network operation center (NOC) 68 as shown in FIG. 25. With reference to FIG. 24, if the HLR interrogates its own subscriber database and detects that the MSISDN represents a valid and current subscriber, it forwards a form of "registration authentication to the currently serving MSC 104 and its collocated VLR 118b. Upon reception the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames, reading on claimed "the registration accepted order is sent via a forward traffic channel to the mobile station."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and registration message, taught by Sayeedi and Canoy, said at least one base station is capable of receiving a registration message from said at least one mobile station; said at least one base station is capable of causing said mobile switching center to register said at least one mobile station in said wireless communication system; and said at least one base station is capable of sending a registration accepted order to said at least one mobile station, also disclosed by Sayeedi, receiving the registration message in a traffic channel, also taught by Canoy, and sending a registration accepted order in a forward traffic

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channel, as taught by LaDue, to reduce bandwidth hungry overhead and over complex information routing and handling of data in a wireless communication system.

As to claims 4 and 11, Sayeedi and Canoy teach everything as applied in claims 1 and 8 and Sayeedi also discloses each BS of the multiple BS's 106, 138 includes multiple base transceiver stations (BTS's) 108, 110 (two shown) and a timer 113 that are each operably coupled to a base station controller (BSC) 112 (para. 19), reading on claimed "least one base station comprises a traffic channel registration controller." Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19) and upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 (para. 26), reading on claimed "sending mobile station registration messages to said at least one mobile station." Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "receiving mobile station registration messages from said at least one mobile station."

However, Sayeedi fails to disclose receiving mobile station registration message in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Canoy.

Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the

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reverse link of the wireless communication channel 115 (para. 32), reading on claimed "at least one base station is capable of receiving in a reverse traffic channel a registration message."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

Sayeedi and Canoy teaches everything as stated above; however, neither teaches sending mobile station registration messages in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by LaDue.

LaDue teaches an invention that produces high-speed digital data communication methods through narrowband and wideband digital traffic channel mediums (para. 34). LaDue also teaches [para. 208]:

If a VTT terminal 120 has not previously registered as a roamer, it sends a registration increment to the HLR associated with the MSISDN via the SS#7 or SS7 network 113. In this particular case the associated HLR 109 is collocated within physical constructs of the selected network operation center (NOC) 68 as shown in FIG. 25. With reference to FIG. 24, if the HLR interrogates its own subscriber database and detects that the MSISDN represents a valid and current subscriber, it forwards a form of "registration authentication to the currently serving MSC 104 and its collocated VLR 118b. Upon reception the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic

channel signaling frames, reading on claimed "sending mobile station registration messages in a traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and registration messages, as taught by Sayeedi and Canoy, least one base station comprises a traffic channel registration controller that is capable of one of: sending mobile station registration messages to said at least one mobile station and receiving mobile station registration messages from said at least one mobile station, also disclosed by Sayeedi, receiving mobile station registration messages in a traffic channel, also taught by Canoy, sending mobile station registration messages in a traffic channel, as taught by LaDue, to reduce bandwidth hungry overhead and over complex information routing and handling of data in a wireless communication system.

As to claims 5 and 12, Sayeedi, Canoy, and LaDue teach everything as applied in claims 1, 8, 4, and 11 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "said traffic channel registration controller is capable of receiving a registration request message from said at least one mobile station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132 (para. 30), reading on claimed "said traffic channel registration controller is capable of causing said mobile switching center to register said at least one mobile station in said wireless communication system." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period, T.sub.3210, from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102

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via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "traffic channel registration controller is capable of sending a registration accepted order to said at least one mobile station."

Sayeedi discloses everything as stated above; however, he fails to disclose receiving in a reverse traffic channel a registration request message. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Canoy.

Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "traffic channel registration controller is capable of receiving in a reverse traffic channel a registration request message."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

Sayeedi and Canoy teaches everything as stated above; however, neither teaches sending a registration accepted order to said at least one mobile station in a forward traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by LaDue.

LaDue also teaches an invention that produces high-speed digital data communication methods through narrowband and wideband digital traffic channel mediums (para. 34). LaDue also teaches [para. 208]:

If a VTT terminal 120 has not previously registered as a roamer, it sends a registration increment to the HLR associated with the MSISDN via the SS#7 or SS7 network 113. In this particular case the associated HLR 109 is collocated within physical constructs of the selected network operation center (NOC) 68 as shown in FIG. 25. With reference to FIG. 24, if the HLR interrogates its own subscriber database and detects that the MSISDN represents a valid and current subscriber, it forwards a form of "registration authentication to the currently serving MSC 104 and its collocated VLR 118b. Upon reception the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames, reading on claimed "sending a registration accepted order to said at least one mobile station in a forward traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and registration messages, as taught by Sayeedi and Canoy, said traffic channel registration controller is capable of receiving a registration request message from said at least one mobile station, said traffic channel registration controller is capable of causing said mobile switching center to register, said at least one mobile station in said wireless communication system traffic channel registration controller is capable of sending a registration accepted order to said at least one mobile station, also disclosed by Sayeedi, receiving mobile station registration messages in a traffic channel, also taught by Canoy, sending mobile station registration messages in a traffic channel, as taught by LaDue, to reduce bandwidth hungry

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overhead and over complex information routing and handling of data in a wireless communication system.

As to claim 16, Sayeedi and Canoy teach everything as applied in claim 15 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "sending a registration message from said at least one mobile station to said at least one base station." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period, T.sub.3210, from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "sending a registration accepted order message from said at least one base station to said at least one mobile station."

Sayeedi discloses everything as stated above; however, he fails to disclose receiving in a reverse traffic channel a registration request message. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Canoy.

Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "sending a registration message on a reverse traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, taught by Sayeedi and Canoy, sending a registration message from said at least one mobile station to said at least one base station and sending a registration accepted order message from said at least one base station to said at least one mobile station, also disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

Sayeedi and Canoy teaches everything as stated above; however, neither teaches sending a registration accepted order on a forward traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by LaDue.

LaDue also teaches an invention that produces high-speed digital data communication methods through narrowband and wideband digital traffic channel mediums (para. 34). LaDue also teaches [para. 208]:

If a VTT terminal 120 has not previously registered as a roamer, it sends a registration increment to the HLR associated with the MSISDN via the SS#7 or SS7 network 113. In this particular case the associated HLR 109 is collocated within physical constructs of the selected network operation center (NOC) 68 as shown in FIG. 25. With reference to FIG. 24, if the HLR interrogates its own subscriber database and detects that the MSISDN represents a valid and current subscriber, it forwards a form of "registration authentication to the currently serving MSC 104 and its collocated VLR 118b. Upon reception the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic

channel signaling frames, reading on claimed "sending a registration accepted order on forward traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, taught by Sayeedi and Canoy, sending a registration message from said at least one mobile station to said at least one base station and sending a registration accepted order message from said at least one base station to said at least one mobile station, also disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, sending a registration accepted order message, as taught by LaDue, to reduce bandwidth hungry overhead and over complex information routing and handling of data in a wireless communication system.

As to **claim 17**, Sayeedi and Canoy teach everything as applied in claim 15 and LaDue teaches everything as applied in claim 16 and Sayeedi further discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "sending a location update request message from said at least one base station to said mobile switching center after said at least one base station receives said registration request message from said at least one mobile station." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para.

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34), reading on claimed "receiving in said at least one base station a location update acceptance message from said mobile switching center before said at least one base station sends a registration accepted order message to said at least one mobile station."

5. Claims 3, 6-7, 10, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayeedi and Canoy as applied to claims 1 and 8 above, in view of LaDue as applied in claims 2, 4-5, 9, 11-12 and further in view of well known prior art (MPEP 2144.03).

As to claim 3, Sayeedi and Canoy teach everything as applied in claim 1 and LaDue teaches everything as applied in claim 2 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "said mobile switching center capable of causing a registration request message to be sent to said at least one mobile station."

Canoy also teaches, as stated previously, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32). LaDue also teaches, as stated previously, the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames (para. 208).

However, neither Sayeedi, Canoy, nor LaDue teach the registration request message is sent in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by well known prior art.

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The Examiner takes Official Notice that it would have been obvious art at the time of invention to send a registration request message to a mobile station in a traffic channel in light of the above known prior art in order to conserve the wireless communication systems availability of bandwidth during registration processes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus, taught by Sayeedi and Canoy, sending a registration accepted order in a forward traffic channel, taught by LaDue, said mobile switching center capable of causing a registration request message to be sent to said at least one mobile station, also taught by Sayeedi, in a traffic channel, as taught by well known prior art, to enable the serving wireless communication system to instantly instigate a location update of the mobile device and conserving system bandwidth during the registration process.

As to claim 6, Sayeedi and Canoy teach everything as applied in claim 1 and LaDue teaches everything as applied in claims 2 and 4-5 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "mobile switching center is capable of sending a registration request message to said traffic channel registration controller for forwarding to said at least one mobile station."

Canoy also teaches, as stated previously, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32). LaDue also teaches, as stated previously, the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a

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forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames (para. 208).

However, neither Sayeedi, Canoy, nor LaDue teach the registration request message is sent in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by well known prior art.

The Examiner takes Official Notice that it would have been obvious art at the time of invention to send a registration request message to a mobile station in a traffic channel in light of the above known prior art in order to conserve the wireless communication systems availability of bandwidth during registration processes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus, taught by Sayeedi and Canoy, sending a registration accepted order in a forward traffic channel, taught by LaDue, mobile switching center is capable of sending a registration request message to said traffic channel registration controller for forwarding to said at least one mobile station, also taught by Sayeedi, in a traffic channel, as taught by well known prior art, to enable the serving wireless communication system to instantly instigate a location update of the mobile device and conserving system bandwidth during the registration process.

As to claim 7, Sayeedi and Canoy teach everything as applied in claim 1, LaDue teaches everything as applied in claims 4-5, well known prior art teaches everything as applied in claim 6, and Sayeedi further discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in

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the Registration message (para. 30), reading on claimed "least one base station is capable of sending a location update request message to said mobile switching center." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "receiving a location update acceptance message from said mobile switching center."

As to **claim 10**, Sayeedi and Canoy teach everything as applied in claim 10 and LaDue teaches everything as applied in claim 9 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "said mobile switching center capable of causing a registration request message to be sent to said at least one mobile station."

Canoy also teaches, as stated previously, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32). LaDue also teaches, as stated previously, the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames (para. 208).

However, neither Sayeedi, Canoy, nor LaDue teach the registration request message is sent in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by well known prior art.

The Examiner takes Official Notice that it would have been obvious art at the time of invention to send a registration request message to a mobile station in a traffic channel in light of the above known prior art in order to conserve the wireless communication systems availability of bandwidth during registration processes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus, taught by Sayeedi and Canoy, sending a registration accepted order in a forward traffic channel, taught by LaDue, said mobile switching center capable of causing a registration request message to be sent to said at least one mobile station, also taught by Sayeedi, in a traffic channel, as taught by well known prior art, to enable the serving wireless communication system to instantly instigate a location update of the mobile device and conserving system bandwidth during the registration process.

As to claim 13, Sayeedi and Canoy teach everything as applied in claim 8 and LaDue teaches everything as applied in claims 11-12 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "mobile switching center is capable of sending a registration request message to said traffic channel registration controller for forwarding to said at least one mobile station."

Canoy also teaches, as stated previously, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless

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communication channel 115 (para. 32). LaDue also teaches, as stated previously, the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames (para. 208).

However, neither Sayeedi, Canoy, nor LaDue teach the registration request message is sent in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by well known prior art.

The Examiner takes Official Notice that it would have been obvious art at the time of invention to send a registration request message to a mobile station in a traffic channel in light of the above known prior art in order to conserve the wireless communication systems availability of bandwidth during registration processes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus, taught by Sayeedi and Canoy, sending a registration accepted order in a forward traffic channel, taught by LaDue, mobile switching center is capable of sending a registration request message to said traffic channel registration controller for forwarding to said at least one mobile station, also taught by Sayeedi, in a traffic channel, as taught by well known prior art, to enable the serving wireless communication system to instantly instigate a location update of the mobile device and conserving system bandwidth during the registration process.

As to claim 14, Sayeedi and Canoy teach everything as applied in claim 1, LaDue teaches everything as applied in claims 4-5, well known prior art teaches everything as applied in claim 13 and Sayeedi further discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, the location update request informs of a location of the MS sourcing

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the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "least one base station is capable of sending a location update request message to said mobile switching center." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "receiving a location update acceptance message from said mobile switching center."

6. Claims 18-19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sayeedi and Canoy as applied to claim 15 above, in view of LaDue (U.S. 2005/0147057 A1) and further in view of well known prior art (MPEP 2144.03).

As to claim 18, Sayeedi and Canoy teach everything as applied in claim 15 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "sending a registration request message from a mobile switching center to said at least one base station and sending said registration request message from said at least one base station to said at least one mobile station."

Canoy also teaches, as stated previously, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32).

In the same field of endeavor, LaDue teaches an invention that produces high-speed digital data communication methods through narrowband and wideband digital traffic channel mediums (para. 34). LaDue also teaches [para. 208]:

If a VTT terminal 120 has not previously registered as a roamer, it sends a registration increment to the HLR associated with the MSISDN via the SS#7 or SS7 network 113. In this particular case the associated HLR 109 is collocated within physical constructs of the selected network operation center (NOC) 68 as shown in FIG. 25. With reference to FIG. 24, if the HLR interrogates its own subscriber database and detects that the MSISDN represents a valid and current subscriber, it forwards a form of "registration authentication to the currently serving MSC 104 and its collocated VLR 118b. Upon reception the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames

However, neither Sayeedi, Canoy, nor LaDue teach the registration request message is sent in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by well known prior art.

The Examiner takes Official Notice that it would have been obvious art at the time of invention to send a registration request message to a mobile station in a traffic channel in light of the above known prior art in order to conserve the wireless communication systems availability of bandwidth during registration processes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus, taught by Sayeedi and Canoy, sending a registration request message from a mobile switching center to said at least one base station and sending said registration request message from said at least one base station to said at least one mobile station, also taught by Sayeedi, in a traffic channel, as taught by well known prior art, to enable the serving wireless communication system to instantly instigate a location update of the mobile device and conserving system bandwidth during the registration process.

As to **claim 19**, Sayeedi, Canoy, LaDue, and well known prior art teach everything as applied in claim 18 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "in response to receiving said registration request message in a forward traffic channel from said at least one base station, sending a registration message in a reverse traffic channel from said at least one mobile station to said at least one base station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, and the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "sending a location update request message from said at least one base station to said mobile switching center." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period, reading on claimed "receiving in said at least one base station a location update acceptance message from said mobile switching center," from the time that the BS transmitted the location update request,

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BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "sending a registration accepted order message in a forward traffic channel from said at least one base station said at least one mobile station."

Sayeedi discloses everything as stated above; however, Sayeedi fails to disclose the mobile station sending the registration message *in a reverse traffic channel*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Canoy.

Canoy also teaches if the access terminal 105 is engaged in "traffic" (i.e., actively communicating with the base transceiver site 110), the access terminal 105 receives a broadcast logical channel embedded in the forward link of the wireless communication channel 115 and in response to receiving the broadcast logical channel over the forward link, the access terminal 105 sends a registration message for the logical channel over a traffic channel on the reverse link of the wireless communication channel 115 (para. 32), reading on claimed "sending a registration message in a reverse traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and the receiving of the registration message, disclosed by Sayeedi, to be in a traffic channel, as taught by Canoy, in order to provide location information within the registration message when the update of the mobile device's location is immediately needed.

Sayeedi and Canoy teach everything as stated above; however, neither teaches the registration accepted order is sent *via a forward traffic channel* to the mobile station. The

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Examiner contends this feature was old and well known in the art at the time of invention as taught by LaDue.

LaDue also teaches, as stated previously, upon reception the serving MSC 104 sends a form of "successful registration, contained within the frame structures of a forward channel SDCCH to the VTT terminal 120 via the forward traffic channel that transports the SDCCH registration increment via traffic channel signaling frames, reading on claimed "sending a registration accepted order message in a forward traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, taught by Sayeedi and Canoy, receiving the registration request message in a forward traffic channel, as taught by LaDue and well known prior art, in response to receiving said registration request message in a forward traffic channel from said at least one base station, sending a registration message in a reverse traffic channel from said at least one mobile station to said at least one base station, sending a location update request message from said at least one base station to said mobile switching center, receiving in said at least one base station a location update acceptance message from said mobile switching center, and sending a registration accepted order message in a forward traffic channel from said at least one base station said at least one mobile station, also disclosed by Sayeedi, receiving the registration message in a traffic channel, also taught by Canoy, and sending a registration accepted order in a forward traffic channel, as taught by LaDue, to reduce bandwidth hungry overhead and over complex information routing and handling of data in a wireless communication system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olivia Marsh whose telephone number is 571-272-7912. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**CHARLES APPIAH
PRIMARY EXAMINER**